

-- only to polypropylenes --.

Page 10: line 27, change "its" to -- their --.

Page 10: line 28, change "depend" to -- depends --.

Page 12: line 21, change "analogs" to -- analogues --.

Page 14: line 7, after "slurry" insert -- , gas --.

Page 14: line 16, change "(C₂H_{4-x}R_x)" to -- (C₅H_{4-x}R_x) --.

Page 14: line 24, before "other" delete -- any --.

Page 15: line 2, before "other" delete -- any --.

Page 15: line 2, after "containing" insert -- a --.

Page 15: line 17, before "other" delete -- any --.

Page 16: lines 11-12, change "R⁴(R⁵-Al-O)_m-AlR⁶" to

-- R⁴(R⁵-Al-O)_m-AlR⁶ --.

Page 17: line 18, change "C₅-C₂₀" to -- C₄-C₂₀ --.

Page 18: line 28, before "other" delete -- any --.

Page 19: line 6, before "other" delete -- any --.

Page 19: line 7, before "Lewis" insert -- a --.

Page 19: line 23, before "other" delete -- any --.

Page 20: line 21, change "silane" to -- silyl --.

Page 21: line 10, change "diisoproylamide" to

-- diisopropylamide --.

Page 22: line 11, change "Column" to -- column --.

Page 22: lines 13-21, change "Suitable hydrocarbyl and substituted hydrocarbyl radicals, which may be substituted as an R' group for at least one hydrogen atom in the heteroatom J ligand group, will contain from 1 to about 20 carbon atoms and include straight and branched alkyl radicals, cyclic hydrocarbon radicals, alkyl-substituted cyclic hydrocarbon radicals, aromatic radicals and alkyl-substituted aromatic radical, halogen radicals, amido radicals, phosphido radicals and the like." to ~~the~~ Suitable R' radicals of the heteroatom J ligand are

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independently a hydrocarbyl radical selected from a group consisting of 1 to about 20 carbon atoms and include straight and branched alkyl radicals, cyclic hydrocarbon radicals, alkyl-substituted cyclic hydrocarbon radicals, aromatic radicals and the like; substituted C₁-C₂₀ hydrocarbyl radicals wherein one or more hydrogen atom is replaced by a halogen radical, an amido radical, a phosphido radical, an alkoxy radical and an alkylborido radical, or a radical containing a Lewis acidic or basic functionality, and the like.

Page 23: line 6, change "analogous" to -- analogues --.

Page 23: line 8, after "are" change ";" to -- : --.

Page 23: line 24, change, "is" to -- are --.

Page 23: line 33 to Page 24: line 1, change "Me₂Si(Me₄C₅) (N-t Bu) ZrCl₂" to -- Me₂Si(Me₄C₅) (N-t-Bu) ZrCl₂ --.

Page 24: line 6, change "dimethylsilylcyclopentadienyl-t-butylamidochloro" to -- dimethylsilylcyclopentadienyl-t-butylamidodichloro --.

Page 26: line 3, after "compound" insert -- , --.

Page 26: line 4, change "becomes" to -- is --.

Page 26: line 12, change "becomes" to -- is --.

Page 28: line 31, after "slurry" insert -- , gas --.

Page 29: line 3, change "Where" to -- When --.

Page 29: line 9, change "Or, if" to -- If --.

Page 30: line 18, after "separately" insert -- , --.

Page 30: line 25, after "invention" insert -- , --.

Page 31: line 13, change "18,000 to 1" to -- 18,000:1 --.

Page 31: line 18, change "copolymer" to -- polymer --.

Page 33: line 2, change "¹³CNMR" to -- ¹³C NMR --.

Page 33: line 16, change "Z. Naturforich" to -- Z. Naturforsch --.

Page 33: line 16, change "Other lithiated" to
-- Lithiated --.

Page 33: line 26, change "Sherring" to -- Schering --.

Page 33: line 32, change "thf" to -- THF --.

Page 34: line 6, change "thf" to -- THF --.

Page 34: line 24, change "remove" to -- removed --.

Page 34: line 33, change "thf" to -- THF --.

Page 35: line 7, change "thf" to -- THF --.

Page 35: line 16, change "allowed to stir" to
-- stirred --.

Page 35: line 17, delete -- mixture in --.

Page 35: line 20, change "(NC₁₂H₂₃)" to -- (NC₁₂H₂₃) --.

Page 35: lines 24-25, delete -- Dichloromethane was added
and the mixture was allowed to stir overnight. The solvent was
removed via vacuum. --.

Page 35: line 35, change "Li(C₁₃H₂)•Et₂O" to
-- Li(C₁₃H₉)•Et₂O --.

Page 36: line 9, change "thf" to -- THF --.

Page 37: line 3, change "D." to -- D: --.

Page 37: line 28, after "filtered" delete -- off --.

Page 37: line 30, change "mol." to -- mol). --.

Page 38: line 13, change "Li₂[Me₂Si(C₁₃H₈)(N-t-Bu)•Et₂O"
to -- Li₂[Me₂Si(C₁₃H₈)(N-t-Bu)]•Et₂O --.

Page 38: line 16, change "Li₂[Me₂Si(C₁₃H₈)(N-t-Bu)•Et₂O"
to -- Li₂[Me₂Si(C₁₃H₈)(N-t-Bu)]•Et₂O --.

Page 38: line 30, change "thf" to -- THF --.

Page 40: line 2, change "LiHN-2,6-i-Pr₂C₆H₃" to
-- LiHN-2,6-i-Pr₂C₆H₃ --.

Page 40: line 8, change "Me₂Si(MeC₅H₄)(HN-2,6-i-Pr₂C₆H₃)" to
-- Me₂Si(MeC₅H₄)(HN-2,6-i-Pr₂C₆H₃) --.

Page 40: line 11, change "Me₂Si(MeC₅H₄) (HN-2,6-i-PrC₆H₃)" to
-- Me₂Si(MeC₅H₄) (HN-2,6-i-Pr₂C₆H₃) --.

Page 40: line 15, change "Li₂[Me₂Si(MeC₅H₄) (N-2,6-i-
PrC₆H₃)]" to -- Li₂[Me₂Si(MeC₅H₄) (N-2,6-i-Pr₂C₆H₃)] --.

Page 40: line 17, change "Li₂[Me₂Si(MeC₅H₄) (N-2,6-i-
PrC₆H₃)]" to -- Li₂[Me₂Si(MeC₅H₄) (N-2,6-i-Pr₂C₆H₃)] --.

Page 40: line 27, change "Me₂Si(MeC₅H₄) (N-2,6-i-
PrC₆H₃) TiCl₂" to -- Me₂Si(MeC₅H₄) (N-2,6-i-Pr₂C₆H₃) TiCl₂ --.

Page 40: line 29, delete

-- Examples 1-10 of Polymerization --.

Page 41: lines 3-5, delete -- The toluene was removed via
vacuum and toluene was added to precipitate the LiCl. --.

Page 42: between lines 18 and 19, insert and center

b2 Examples 1-10 of Polymerization

Page 42: line 22, after "already described" insert
-- in U.S. Pat. No. 5,055,438, --.

Page 42: line 22, delete -- 100 ml of toluene, --.

Page 43: line 4, change "fand" to -- and --.

Page 46: line 15, change "prodiuct" to -- product --.

Page 48: line 1, change "IVB" to -- IV-B --.

Page 48: line 7, change "to" to -- at --.

Page 48: line 14, change "these" to -- those --.

IN THE CLAIMS

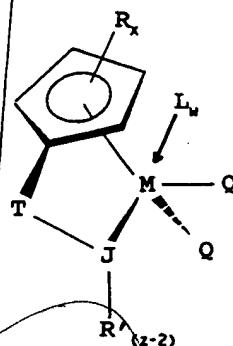
Please cancel claims 1-13.

Please add new claims 14-26.

b3 14. (new) A process for producing crystalline poly- α -
olefins comprising the steps of

(i) contacting an α -olefin monomer at a temperature and pressure sufficient to polymerize such monomer with a catalyst system comprising:

(A) an alumoxane, and
(B) a Group IV-B transition metal component of the formula:



wherein M is Zr, Hf or Ti in its highest formal oxidation state; R is a substituent group with "x" denoting the degree of substitution (x = 0, 1, 2, 3 or 4) and each R is, independently, a radical selected from a group consisting of C₁-C₂₀ hydrocarbyl radicals, substituted C₁-C₂₀ hydrocarbyl radicals wherein one or more hydrogen atoms is replaced by a halogen radical, an amido radical, a phosphido radical, an alkoxy radical or other radical containing a Lewis acidic or basic functionality, C₁-C₂₀ hydrocarbyl-substituted metalloid radicals wherein the metalloid is selected from the Group IV-A of the Periodic Table of Elements, and halogen radicals, amido radicals, phosphido radicals, alkoxy radicals, alkylborido radicals or other radicals containing a Lewis acidic or basic functionality, or at least two adjacent R-groups are joined

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Complex
Cycl

forming C_4 - C_{20} ring to give a saturated or unsaturated polycyclic cyclopentadienyl ligand;

(JR'^{z-2}) is a heteroatom ligand in which J is an element with a coordination number of three from Group V-A or an element with a coordination number of two from Group VI-A of the Periodic Table of Elements, and R' is a radical selected from a group consisting of C_1 - C_{20} hydrocarbyl radicals, substituted C_1 - C_{20} hydrocarbyl radicals where one or more hydrogen atom is replaced by a halogen radical, an amido radical, a phosphido radical, an alkoxy radical or other radical containing a Lewis acidic or basic functionality, and "z" is the coordination number of the element J;

each Q is, independently, any univalent anionic ligand or two Q's are a divalent anionic chelating ligand, provided that Q is not a substituted or unsubstituted cyclopentadienyl ring;

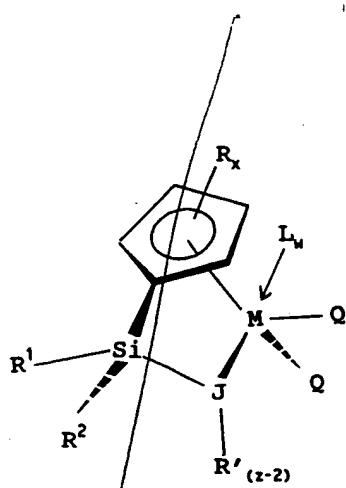
T is a covalent bridging group containing a Group IV-A or V-A element;

L is a neutral Lewis base where "w" denotes a number from 0 to 3;

(ii) recovering a crystalline poly- α -olefin.

15. (new) The process of claim 14, wherein the Group IV-B transition metal component is of the formula:

B3
Cont



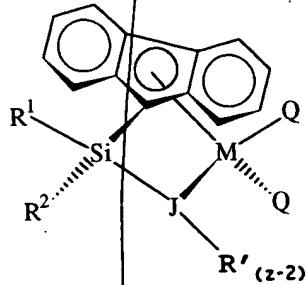
wherein R^1 and R^2 are, independently, C_1 to C_{20} hydrocarbyl radicals, or substituted C_1 to C_{20} hydrocarbyl radicals wherein one or more hydrogen atom is replaced by a halogen atom; R^1 and R^2 may also be joined forming a C_3 to C_{20} ring.

16. (new) The process of claims 14 or 15 wherein J is nitrogen.

17. (new) The process of claim 16 wherein R is a C_1 to C_{20} hydrocarbyl radical, "x" is 1 and R' is a C_6 to C_{20} cyclohydrocarbyl radical or an aromatic radical.

18. (new) The process of claim 14 wherein the Group IV-B transition metal component is of the formula:

B3
Claim

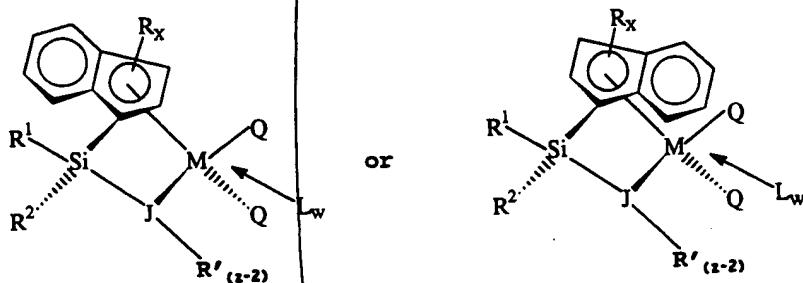


wherein R^1 and R^2 are independently, C_1 to C_{20} hydrocarbyl radicals, or substituted C_1 to C_{20} hydrocarbyl radicals wherein one or more hydrogen atoms is replaced by a halogen atom; R^1 and R^2 may also be joined forming a C_3 to C_{20} ring.

19. (new) The process of claim 18 wherein J is nitrogen.

20. (new) The process of claim 19 wherein R' is an alkyl radical or cycloalkyl radical.

21. (new) The process of claim 14 wherein the Group IV-B transition metal component is of the formula:



Cont'd

wherein "x" is 0, 1, or 2; R¹ and R² are independently C₁ to C₂₀ hydrocarbyl radicals, or substituted C₁ to C₂₀ hydrocarbyl radicals wherein one or more hydrogen atom is replaced by a halogen atom; R¹ and R² may also be joined forming a C₃ to C₂₀ ring.

22. (new) The process of claim 21 wherein J is nitrogen.

23. (new) The process of claim 22 wherein R' is a cycloalkyl radical.

24. (new) The process of claims 15, 18 or 21 wherein M is titanium.

25. (new) The process of claims 15 or 18 wherein M is hafnium or zirconium.

26. (new) The process of claim 14 wherein T is a covalent bridging group containing silicon, J is nitrogen and when R is an alkyl radical, R' is a cyclohydrocarbyl or aromatic radical, or when "x" is 2 or 4 and the R substituents form a polycyclic ring system, R' is an alkyl or cyclohydrocarbyl radical.